

CLAIMS:

1. An image processing apparatus, comprising:
 - an image memory including a first memory area to store a first image data group of a first image for a background and a
 - 5 second memory area for storing a second image data group of a second image for an on-screen display;
 - a display buffer memory for storing the first image and the second image read from said image memory, in a format to be displayed on a display screen; and
 - 10 a control section for controlling accesses in said image memory and said display buffer memory, for reading the first image data group from the first memory area and writing the first image data group in said display buffer memory, and for reading the second image data group from the second memory area and writing
 - 15 the second image data group in a specified area of said display buffer memory, wherein
 - said control section includes a data expansion control section capable of increasing a data amount of the second image data group read from said image memory, according to the second image
 - 20 data group.
2. An image processing apparatus according to claim 1, wherein said data expansion control section includes a magnification control section for magnifying the second image data group.
3. An image processing apparatus according to claim 2, wherein
- 25 said magnification control section includes a circuit for adding a new

data group obtained by copying each data contained in the second image data group to the second image data group. —

4. An image processing apparatus according to claim 2, wherein said magnification control section includes a circuit for adding a new
5 data group obtained by conducting a linear interpolation for the second image data group to the second image data group.
5. An image processing apparatus according to claim 2, further comprising a display buffer memory for displaying a second image data group resultant from the magnification by said magnification
10 control section on the display screen in a magnified image thereof.
6. An image processing apparatus according to claim 2, wherein said magnification control section includes a circuit for also magnifying the first image data group.
7. An image processing apparatus according to claim 3, wherein
15 said magnification control section includes a circuit for also magnifying the first image data group.
8. An image processing apparatus according to claim 4, wherein said magnification control section includes a circuit for also magnifying the first image data group.
- 20 9. An image processing apparatus according to claim 5, wherein said magnification control section includes a circuit for also magnifying the first image data group.
10. An image processing apparatus according to claim 1, wherein said data expansion control section includes a bit converter section
25 for conducting a bit conversion to increases a number of bits of the second image data group.

11. An image processing apparatus according to claim 10, wherein
said bit converter section executes processing to add data "0" to -
low-order bits of the second image data group until a number of bits
of data resultant from the bit addition reaches a number of bits
5 which can be stored in said display buffer memory.

12. An image processing apparatus according to claim 10, wherein
said bit converter section executes:

first processing to add data "0" to low-order bits of the
second image data group until a number of bits of data resultant
10 from the bit addition reaches a number of bits which can be stored
in said display buffer memory; and

second processing of smoothing processing to substantially
equalize difference between data obtained from the first processing,
the data being adjacent to each other on a display screen.

15 13. An image processing apparatus according to claim 10,
wherein:

said bit converter section includes a display information table
containing a large number of display information items and address
information items indicating addresses at which the display
20 information items are respectively stored; and

the second image data group includes a display position
specifying information to specify a display position on the display
screen and the address information.

14. An image processing apparatus according to claim 13, wherein
25 said display information table is rewritable.

15. An image processing apparatus according to claim 13, wherein said display information items are information items regarding colors to be displayed on the display screen.

16. An image processing apparatus according to claim 14, wherein
5 said display information items are information items regarding colors to be displayed on the display screen.

17. An image processing method, comprising the steps of:

(a) storing, in an image memory, a first image data group for a background and a second image data group for an on-screen
10 display;

(b) reading the first image data group for a background and the second image data group for an on-screen display from the image memory and increasing a data amount of the second image data group; and

15 (c) displaying, on a display screen, the first image data group and a second image data group of which the data amount is increased.

18. An image processing method according to claim 17, wherein said step (b) comprises the step of copying each data of the second
20 image data group to obtain a new data group and adding the new data group to the second image data group.

19. An image processing method according to claim 17, wherein said step (b) comprises the step of conducting a linear interpolation for the second image data group to obtain a new data group and
25 adding the new data group to the second image data group.